How To Paint.

HOW TO PAINT.

A COMPLETE COMPENDIUM OF

THE ART.

DESIGNED FOR THE USE OF THE TRADESMAN, MECHANIC, MERCHANT, AND FARMER,

AND TO GUIDE THE PROFESSIONAL PAINTER.

CONTAINING

A PLAIN COMMON-SENSE STATEMENT OF THE METHODS EMPLOYED BY PAINTERS TO PRODUCE SATISFACTORY RESULTS

IN

PLAIN AND FANCY PAINTING

OF EVERY DESCRIPTION,

INCLUDING

GILDING, BRONZING, STAINING, GRAINING, MARBLING, VARNISHING, POLISHING, KALSOMINING, PAPER-HANGING,

Striping, Lettering, Copying, and Ornamenting.

WITH FORMULAS FOR MIXING PAINT IN OIL OR WATER; DESCRIPTIONS OF THE VARIOUS PIGMENTS USED, THEIR AVERAGE COST, AND THE TOOLS REQUIRED.

BY F. B. GARDNER.

Author of "The Carriage Painter's Manual."

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PREFACE.

THE success attending the publication of the "Carriage Painters' Manual," has stimulated me to renewed efforts to make this volume as acceptable and useful to the general public as the former one has proved itself to be to the profession.

Having been frequently asked by acquaintances and others for information pertaining to the art of painting not immediately connected with carriage work, I have finally overcome an impression, long entertained, that a book which answered such questions and treated the art in a more general manner,

would be, financially, a failure, and an injury to the craft,—and have therefore prepared these pages with a view to benefit my fellowmen.

It is not claimed that by reading or studying this little volume, any one may take up the brush or pencil and execute work equal to that done by a practical painter. For, it must be remembered, that painting is not simply a mechanical, but an artistic occupation; and requires extended practice, and a thorough training to master the art. However, a person possessing ingenuity may prepare the painting mixture and spread it with a brush in a self-satisfactory manner, by following the directions I have endeavored to simplify for that purpose. By using no technical terms without fully interpreting them, and giving formulas for mixing paints within the limits of a village supply, I trust my endeavors will be appreciated.

THE AUTHOR.

"Pro Bono Publico."

For the Public Good

I HAVE been repeatedly asked by parents having boys who show an aptitude for, and are desirous of learning, the finer descriptions of painting, such as lettering, scrolling, and ornamenting, where they may be apprenticed, or with whom placed, to study and learn the art; and as there seems to be a prevailing impression that it is as easy to secure such a place as to apprentice a boy to the shoemaking trade, I will endeavor to show the fallacy of such an idea, and, if possible, lead the aspirant for *artistic honors* in a proper channel.

First, then, all fine painting, requires *time*

to execute it properly—for such work cannot be hurried or slighted to any great extent—an experienced or well practiced eye and hand, and a judgment based upon a thorough knowledge of the art. Such work is generally expensive, from the fact that he who possesses these requisites, has spent years, perhaps, of study and practice, to obtain them.

If the practical workman is engaged upon this class of work, each stroke of his pencil is accurately made, each color or shade is applied or blended properly, to produce the desired result; and any effort at assistance by an inexperienced hand would retard and injure rather than improve the work. So it is plainly seen that an apprentice cannot jump into the perfection necessary to perform this work, and, consequently, is not a desirable auxiliary to the artist.

Again, the artist may be employed on work directly under the supervision of his employer, who expects and requires the artist's own

handiwork, or that of his *experienced* assistants; and the apprentice has no opportunity to learn by practice at the expense of the artist's employer.

There are those in the business who express a willingness to take an apprentice, and who pretend to teach him the art; but the poor boy will find that he is only wasting time, doing *profitable* work for his employer, such as grinding colors, cleaning tools, running errands, etc. For it is an impossibility for a boy to assist a painter on fine work, until he has learned, by *practice*, a good part of the work. Many parents, foreseeing the difficulties which beset the apprentice at this trade, agree with a good painter, for a sum of money, to instruct their boy, and by that means the pupil secures *practice* directly under the guidance of the artist on work specially designed for it, until sufficiently advanced to assist his teacher on good or permanent work. The cheapest, and, I think, the best way to learn the art, is to

procure a good book on the subject, study it well, purchase necessary tools, colors, etc.; and begin the *practice* of painting with the book for a teacher. When opportunity offers to watch the movements of a painter, when engaged, study his work while in progress, and after completion ; practice as long and as frequently as circumstances will permit, and in a few months the student may enter a workshop or painter's studio to work "under instructions," confident that he now has the opportunity to lay the only sure foundation for acquiring the whole art ; namely, *practice.*

CHAPTER I.

Painting.

THE first consideration of the painter, is to secure a proper foundation or ground, on which to spread his paint. The surface on which the paint is to be applied should be thoroughly cleaned, by washing, or rubbing with sand-paper or cloth, and well dusted. If it be of wood it should be free from moisture or dampness. The "priming" or first coat of paint should be made of white lead ground in oil and diluted with *raw* linseed oil to the proper consistency for spreading with a brush evenly. This mixture may be made to dry quicker by adding a small quan-

tity of Japan Gold Size or patent dryer Either of these dryers may be used with safety as regards durability or wearing qualities of the paint — provided an excess is not added—when it is intended for wood surfaces.

Priming should be well worked into all cracks or imperfections, which afterwards are to be filled with putty, that the same may adhere well. The following rules, if well followed, will be found of advantage to the beginner.

1. Mix the colors or paints according to the formulas laid down in these pages, being careful to get the proper proportions.

2. Judge as near as possible the quantity required, and mix *more* than enough rather than less.

3. Always keep the paint well stirred in the cup while at work, for some pigments settle to the bottom very quickly.

4. Never put a coat of paint or varnish over a surface not perfectly dry and hard.

5. Lay on the paint smoothly; taking as long a sweep with the brush as possible, and do not haggle or "tease" the work into short patches of paint.

6. Do not fill your brush to overflowing to drop and spatter over other parts of the work, nor replenish it before well exhausted.

7. Keep your tools, your work and your clothing as clean as possible.

TOOLS USED BY PAINTERS.

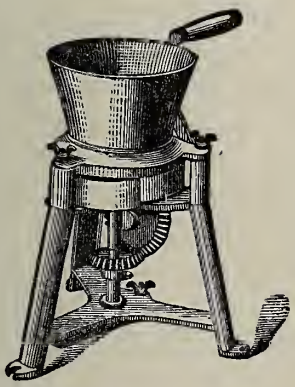
The tools used by the painter are not numerous in detail, although he may, if a good and careful workman, possess a great many *alike*, or similar in form, but used for dissimilar purposes; and I will here describe them.

In olden times, before machinery had reached the important position it now holds in our workshops, painters mixed and ground their pigments or colors on a marble slab,

using another small piece of stone as a rubber or grinder; and to-day, notwithstanding the innovations made by machinery, the "stone and muller" are indispensable articles in the paint shop. White marble is found preferable for the purpose, as a delicate shade of color can be better determined on a white ground, than upon a black or variegated one.

The *palette knife* is a companion of the stone and muller. It is made of fine steel, and is very thin and flexible. Various sizes may be found in the supply stores, but a knife twelve inches long and one inch wide will be best for general use. To use these tools, the pigment, or color, is placed upon the stone, and if it be in lumps, the muller is used to crush them to a powder. The liquids with which the paint is to be mixed are then added, and the whole is mixed or stirred together with the palette knife. The muller is again called into requisition to rub or grind the mass of coarse paint to a proper state for laying on the work.

Although the marble slab may be used for grinding and mixing paints of every kind, the process is too slow and laborious when large quantities of paint are required; and the paint mill is therefore a labor-saving and useful implement. We present an engraving of the most approved mill, and refer our readers to other pages for further information concerning paint-mills.



HARRIS' PATENT PAINT MILL.

CHAPTER II.

Brushes.

THERE are many kinds and qualities of brushes, among which are, first, the ordinary or common paint brushes. These are made of hog's bristles and are of various sizes, designated by dealers as 0, 00, 000, one inch, two inches, etc. Some are round, some oval shaped, and others flat. The round brushes are used principally by house painters, on large surfaces. The oval ones are generally made of better material, and are used for fine painting, as on carriage work, or for varnishing. The flat brushes are useful on any kind of work. In purchasing

this class of brushes, care should be taken to get those only which are well bound—the *wire-bound* brushes are considered best—the handles tight in the socket, if in tin-binding, and the bristles soft, yet elastic. The latter quality may be tested by bending the bristles in the hands. The flat brushes should be chosen for their plentiful supply of bristles, for a *thin* flat brush is not a proper tool to lay paint evenly. A *thin* flat brush is used by grainers in imitating different kinds of wood.

Carriage painters use flat brushes for varnishing, and these are generally made expressly for the purpose. The brushmaker takes the required quantity of bristles to form a brush, and draws back the outside bristles on each side of a centre line, equally and evenly, forming a chisel or bevelled edge, thereby leaving the *split end* of the bristle on the brush, *not ground or worn off*—this makes the brush softer and more elastic than other descriptions of bristle varnish brushes.

"SASH TOOLS" are the small-sized round bristle brushes, and are used to wipe or smooth the paint in corners, and around mouldings or sashes, or for painting where it would be impracticable to use a large brush.

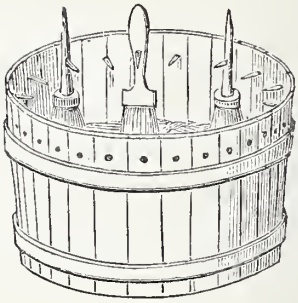
Smaller bristle brushes, bound in tin, are called by some painters "Fitches," but for what reason I cannot conjecture, as they have no connection with the Fitch-hair brushes of the brush-maker. The large, round or oval brushes should have an extra binding put on when new, for the bristles are too long to work well. Some painters bind a strong cord around to the proper distance and secure each end to the handle. But a better way is to take a piece of strong muslin and wrap one thickness around the bristles, then tie a cord around the same as low as you desire the binding to come—say, one-third the length of the bristles, then fold the muslin back toward the handle and fasten it by tieing or

tacking to the original binding. This will be found an excellent plan for varnish tools.

Camels'-hair brushes or blenders, are made, as their name indicates, of camels'-hair bound in tin, with flat, red cedar handles. They are used for laying fine colors on smooth surfaces, and are employed by the carriage painter to a great extent. They are also used for spreading the *size* used in gilding on glass, and may be used *dry* to dust off gold or delicate surfaces.

All brushes when not in use, *used for painting*, should be kept suspended in water, and the most convenient way is shown in the engraving much better than any written description I might give.

Nails are driven through the staves of a tub in such a manner that the brushes may be suspended thereon, allowing the ends to just clear the bottom, and the water to reach only to the binding.

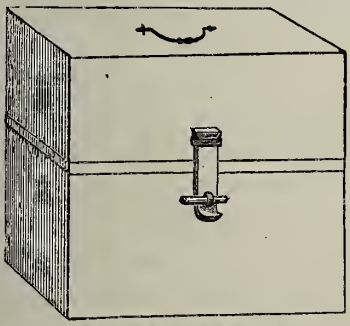


FITCH-HAIR VARNISH BRUSHES.—These are made of a dark colored hair, very elastic and soft, neatly bound in tin, with turned handles. They are used for very fine varnishing, as on carriage bodies; on fine work boxes, and furniture, or over gold leaf or any delicate surface, where a fine finish is desired.

There is an imitation Fitch-hair brush sold for one-half the price charged for the genuine article, but they will prove to be "poor tools at best," and should not be purchased for the purpose of varnishing. The real Fitch-hair

brush generally costs one dollar per inch, width measure.

Varnish brushes should be kept suspended in varnish, when not in use, *not in oil* or *turpentine*, for the latter destroys the elasticity of the hair or bristles and eventually ruins the brush. A tin box, as shown in the engraving,



CAN FOR VARNISH TOOLS.

is used in well-regulated paint-shops to keep the varnish tools in. But a simple substitute may be made, as follows: Take a tin can and pierce two small holes in opposite sides, near the top, then make similar holes in the

handles of the brushes, being careful to have the holes low enough down to allow the ends of the brushes to clear the bottom at least an inch. Then suspend them by putting a piece of wire through the holes of the can and the handles, and put in sufficient varnish to just cover the binding one-half its depth; then cover the whole with a wooden box, to exclude the dust.

Varnish brushes should never be allowed to *touch water* under any circumstances, as it not only injures the elasticity of the hair, but a resinous substance is formed in the "hilt" of the brush, which can never be thoroughly removed, and which will work out little by little when the brush is used, destroying the smooth, glassy surface which might otherwise be obtained.

Smaller brushes than those mentioned, are called "pencils." Striping pencils are made of camels'-hair, sable-hair, ox-hair, etc.; the hair being about one and a half inches in

length and bound in quills. Camels'-hair pencils are generally used on ordinary work, and cost from five to fifteen cents each; while the sable pencils are best for fine striping, and range in price from fifty cents to two dollars each.

This description of pencil is used for lettering and scrolling, the hair being a little shorter only.

Ox-hair pencils are excellent for fine lines in striping, and made *flat*, or as some call them, "dagger pencils." The cut will show their

form. They are used by holding them edgewise to the work, and allowing but one-half the length of the hair to touch.

Ornamenting, or artists' pencils, are made of various kinds of material, some very fine and soft, others stiff and harsh. They are bound in tin or brass, with long cedar handles,

and are sold from ten cents to one dollar, according to size and quality.

Stencil brushes are short stiff brushes for painting over stencil plates, price from thirty to fifty cents each. (See *Stenciling.*) Soft hair brushes, made in similar form, are used by artists for blending shades, and instead of laying on the color, they merely strike the freshly painted surface with the end of the brush, called "stippling."

All pencils should be well rinsed out in turpentine and well greased with tallow, before laying aside after use.

A few other tools of the painter are, the Putty-knife, Palette, and Rest-stick, Chamois skin, Sponge, Combs for graining, Brick Pencils, and Dusting Brush.

CHAPTER III.

Dry Colors.

IT is not my intention to enter into details of color-making, or rather, the chemical preparation of coloring substances, for in these days of improvement, the painter is not compelled to make his pigments, as in "auld lang syne;" therefore, if I describe those sold by the dealer, the method of mixing them, and their combinations to form shades and tints, it will, I doubt not, be entirely sufficient.

WHITE LEAD.

This pigment is the principal one used in the art, as it forms the best foundation for

laying on other colors, and is the *basis* for most of the tints and shades. If perfectly pure it will be found "ropy," when lifted from the keg with the knife, while adulterations, or lead mixed with whiting, barytus, etc., is generally short and crumbling. There are many brands of white lead, each claiming to possess the *best* qualities, and perhaps each, *if pure, are* good,—but cheap, adulterated lead should be avoided, as it is always the dearest in the end.

ZINC WHITE.

This is similar to white lead in appearance, but has less body or covering qualities. It is frequently used *over* white lead paint, when an extra finish is desired. It is a beautiful white color, and when mixed with white varnish, it forms the "China Gloss" of commerce.

LAMPBLACK.

The best is "refined black," or that which has been burned in a furnace to destroy its greasy nature. It may be mixed with oil, varnish, or turpentine, and used without grinding. It is a cheap and durable color.

DROP, OR PATENT-BLACK.

This is a superior color, made from animal charcoal or burnt bones. It is used extensively in carriage-painting, mixed as follows. The lumps are pulverized on the 'stone' and mixed to a thick paste with turpentine. It is then put into the mill and diluted with a sufficient quantity of Brown Japan or Japan Gold-size to allow it to be ground freely, care being taken not to make it *too thin*. When the mixture has been ground fine,—and it may be necessary to run it through the mill twice,—add carriage rubbing varnish in the proportion of one gill to a pint of paint, to bind the color

well, or if there be time enough given to dry, one-half a gill of boiled linseed oil may be used instead of the varnish. Then if too thick to spread easily add a little turpentine.

IVORY BLACK

Is the *ne plus ultra* of blacks, and is used on fine work only, being quite expensive. It is made from burnt ivory, and is a very difficult color to grind.

PRUSSIAN BLUE.

This is the strongest bodied color of its class, and may be mixed in the same manner as patent black ; but in its pure state it is too dark for ordinary purposes. It is changed to any desired shade by mixing with it a little white. When added to black it improves or enriches the latter, making a fine blue-black.

ULTRAMARINE.

A beautiful shade of blue. When mixed with white it can be used on all descriptions of work, but in its pure state it possesses very little body, and is therefore frequently used as a glazing over other blue grounds. It retails for about 40 cents per lb.

GREEN.

There are many shades and qualities of green, the most useful of which is Chrome Green. It is a strong bodied color, and may be changed from its pure state or particular shade, to an endless variety of shades, by adding Prussian Blue to darken, or Chrome Yellow to lighten. Verdigris, Terre Verte, Cobalt Green, and Emerald Green are all *fine* colors, and are used for nice painting.

YELLOW.

Chrome Yellow is the principal one of this class, of which there are many shades, namely

light, medium, deep lemon, and orange. It retails for about 30 cents per lb. Yellow Ochre is a yellow earth, and is a very useful and durable color for barns, outbuildings, fences, floors, and all common work. It is sold in large quantities for two or three cents per lb.

VERMILION.

There are many kinds of vermilion. That most frequently used is of English manufacture. This is divided into two shades, the light, and the deep; the former, having the most body or covering qualities, is used for lettering and ornamenting.

Chinese vermilion would be, if possible to procure it unadulterated, the finest red in use; but it is so frequently tampered with, that the English is now the leading article. American vermilion is a very good pigment for ordinary work, and a quality known as California vermilion is extensively used on the panels of

railroad cars, proving to be good and durable. Vermilion is a mixture of sulphur and mercury, and is frequently found to turn to a dark brown color if exposed to the atmosphere. A remedy for this is, to add one-eighth part flour of sulphur to the paint when mixing.

English Vermilion is sold for from 95 cents to $1.75 per lb. Chinese, which is put up in small paper packages, retails for from $1.00 to $1.50 per lb. American, in six pound cans, 35 cents per lb. The California brand, $1.50.

BROWN.

Burnt Umber, Raw Umber, Sienna, Vandyke Brown, Spanish Brown, are all brownish colors; but the better way is for the painter to make browns by mixing red and black to any desired shade.

LAKE.

There are many kinds of lake colors. Some are procured in small lumps or drops, others

in powdered form, and others in cakes or broken pieces.

Those most frequently used are :

Carmine—Scarlet—Yellow—Florentine } LAKE
Munich—Madder—Purple—Crimson }

These colors, when mixed for *solid* colors, should not be allowed to dry "dead," but should have an egg-shell gloss ; otherwise the beauty of the color is lost. This is done by adding to the paint when mixed a few drops of carriage varnish. A black ground is considered best for lake, although some prefer a dark brown. This is the color so much admired on coach panels, and called by some, "wine color" and "claret." It may be used for glazing over vermilion, and frequently takes the place of carmine.

CARMINE.

This is a beautiful crimson or blood-red color, and the most expensive color used, usually costing $3.00 per ounce. It is there-

fore used for glazing over reds or browns.

ROSE-PINK.

This is an imitation of lake, and as it soon fades or loses its crimson tint, it is not employed to any great extent.

WHITING.

A species of chalk, used in making whitewash or kalsomine for walls. It is not suitable for oil painting, as it turns to a dirty brown color when mixed. It retails for five cents per pound.

GLUE.

Good glue should be a light brown color, semi-transparent, and free from waves or cloudy lines. When desired for use it should be broken into small pieces and placed in a vessel containing sufficient water to cover it, in which it will soften and swell; then it must

be heated and boiled ; and this should be done by setting the vessel containing the glue into another vessel of water, in which is placed a few pebbles or nails to prevent the glue vessel from touching the bottom. Set this over the fire, and when the glue is dissolved and has boiled a few moments, it is ready for use. Cooper's glue sells in New York for about 25 cents per lb.

PUMICE-STONE.

Pumice-stone in the lump is used by painters to level painted surfaces. In carriage painting, a coarse mixture of paint is put on the work, and dried. Then having cut the stone level and smooth with a saw or file, the workman rubs the surface of the work thus prepared, using water in abundance to prevent heating or scratching, until a smooth level surface or foundation for other paints is obtained.

Pulverized pumice-stone is used to remove the gloss and imperfections on varnished

surfaces, by rubbing with a woolen cloth and water.

Rotton Stone is used in the same manner, but only on work which requires polishing.

The surface having been well rubbed with the fine pumice-stone and water, the operation is repeated, using rotton stone, finely pulverized, in the place of the pumice-stone, until a slight gloss appears; then, sweet oil is substituted for water, and the rubbing process is continued; finally the rotton stone and oil is cleaned off by rubbing wheat flour over the work, and the brilliant gloss improved by rubbing with a soft silk handkerchief or the palm of the hand.

ASPHALTUM

Is a resinous substance, quite black in appearance when dry, but of a brownish tint when mixed for use. It may be procured in lumps and ground for use as required; but it is best to purchase the prepared article, direct

from the dealer. It is a very transparent color, and is excellent for shading over gold leaf, as in scrolls and ornamental work. It may be used to advantage in staining in imitation of hard woods.

CHAPTER IV.

Liquids.

SPIRITS OF TURPENTINE.

THIS is a highly inflammable fluid, and as spoken of before in these pages, extremely volatile. The odor from good turpentine is stronger but not so offensive or unpleasant as that which arises from an inferior quality, and this peculiarity may be sometimes turned to advantage in testing its qualities. It is considered very injurious to the health of the painter, both by inhaling its fumes, and by absorption through the pores of the skin, and I would here caution painters to abstain from using it as a means of cleaning the hands.

Its price varies from 50 cents to $1.00 per gallon.

BENZINE

Is frequently substituted for, and mixed with turpentine by unprincipled dealers, but it is so far inferior to that article that its use will not be countenanced by even a medium workman, except on very common work.

OILS.

For ordinary work linseed oil is best. But artists use oil of lavender, oil of spike, oil of poppies, etc., in mixing fine colors. Raw linseed oil is preferable for first coats, for being more limpid than the boiled oil, it readily penetrates the pores or grains of wood, and secures the same against moisture. The longer oil is kept the better, both in regard to its drying qualities and its transparency.

VARNISHES.

The varnish list embraces an almost endless variety. I will mention only those most commonly used. The best and most durable varnishes are used in carriage painting.

Carriage-rubbing Varnish, the first on the list, is used to fill up or produce a level surface over paint, on which to spread other and better qualities of varnishes. It dries sufficiently hard to handle in about ten hours; but should be allowed a longer time to harden, before the process of rubbing with pumice-stone is begun.

Carriage Varnish is superior to Furniture Varnish, and I would recommend its use for varnishing furniture.

Hard-drying Body Varnish.—This is used for finishing coats over a levelled surface, on work not requiring the greatest durability, and is particularly adapted for the best inside work.

WEARING BODY VARNISH.—This is very pale, and surpasses all others in freedom of working, as well as in brilliancy and durability. Though a long time in hardening, it dries out of the way of dust in ten or twelve hours, and sets so slowly that ample time is allowed to accomplish a perfect job on the largest area of surface.

FURNITURE VARNISH.—This is an inferior quality of Varnish, possessing more resinous substance than copal, or mastic gums. It is generally sufficiently durable and glossy for the purpose designed.

AVERAGE PRICE OF VARNISHES.

		$ cts.
Carriage-Rubbing,	per gallon	4.00
Hard-Drying Body	" "	4.75
Coach, No 1	" "	5.00
Wearing Body	" "	6.00
English	" "	6.50
Furniture	" "	3.00
Japan Gold Size (a dryer)	" "	3.50
Brown Japan	" "	2.00
Enamelled Leather Varnish	" "	4.00

Shellac Varnish.—This may be purchased ready prepared, but it is best to make it when required.

Take one lb. of gum shellac and put it in an earthern vessel, cover it with alcohol (90 per cent. is best) and set it in a warm place; shake the mixture occasionally, and in a day or two it will be ready for use. It is used to prevent the resinous substance in pine knots from striking out through the paint, by simply coating them over before the priming is put on.

A little lampblack added to this varnish forms an excellent harness varnish.

Japan Gold Size.—This is a superior liquid dryer for paints. It is lighter colored than Brown Japan dryer, with nearly double its strength. On account of its paleness and the less quantity required, it is especially valuable for use with light-colored paints, and being an oil dryer, is much less hurtful to the work than Brown Japan.

BROWN JAPAN.—A liquid dryer for paints, and though not considered as good as the Gold Size, it is extensively used for the purpose designed.

A good dryer for paints is made by grinding or dissolving a small quantity of sugar of lead in linseed oil.

SIZE, *or Mordant Varnishes.*—One of the best Mordants or sizing for signs, or work to be exposed to the weather, is called *fat oil size.* It may be purchased ready mixed, but is best when prepared as follows: Expose boiled linseed oil to a strong heat in a pan; when it begins to smoke, set fire to the oil, allow it to burn a moment, and then suddenly extinguish it by covering the pan. This will be ready for use when cold, but will require thinning with a little turpentine.

QUICK GOLD SIZE.

For lettering, striping, and ornamenting on wagons, furniture or other articles, and which

will be coated over with varnish, the best is put up in half gallon cans and labelled "Gold Size," and sells for about $4.00 per gallon.

But in case this is not easily obtained, take equal parts of carriage finishing varnish and Brown Japan, and a fair imitation of the Quick gold size will be formed.

ASPHALTUM,

As procured from the dealer in liquid form, and diluted with turpentine and a few drops of linseed oil, will be found an excellent size for light or pale gold leaf, or gold bronze.

A good gold size is made by adding a little honey to dissolved glue ; and is used by fresco painters in decorating walls and ceilings. The brilliancy of the gold is greatly improved when put over this size ; but it must not be varnished over.

SIZE FOR GILDING ON GLASS.

Drop a few pieces of isinglass into a pint of boiling water, and when thoroughly dissolved, strain through clean muslin. (See *Gilding.*)

CHAPTER V.

Oil Colors.

FOR the use of persons who have no facilities for grinding paints, colors ground in oil and put up in small tin boxes or cans may be purchased at the paint stores. They are excellent for mixing with white paint to form shades or tints, or for use in their pure state, by thinning with turpentine, and adding a little dryer.

Similar colors ground exceedingly fine for artists' use, are put up in tubes of soft tin, having a screw cap or cover. When required for use, the cover is removed, and by a gentle pressure of the fingers upon the sides of the tube the color is ejected.

The list embraces the following colors :

Yellow Lake	Green Verditer	Cassel Earth
Dutch Pink	Mountain Green	Cologne Earth
English Pink	Chrome Green	Asphaltum
Italian Pink	Verdigris	Emerald Green
Kings Yellow	Terre Verte	Indian Red
Chinese Yellow	Cobalt Green	Venetian Red
Indian Yellow	Purple Ochre	Naples Yellow
Rose Pink	Yellow Ochre	Chrome Yellow
Carmine	Oxford Ochre	Ivory Black
Vermilion	Roman Ochre	Lamp Black
Madder Lake	Purple Lake	Orange Yellow
Indigo Blue	Burnt Sienna	Flake White
Intense Blue	Raw Sienna	Crems White
Antwerp Blue	Burnt Umber	Sugar of Lead
Prussian Blue	Raw Umber	Ultramarine.
Sap Green		

COMPOUND COLORS.

It would be an endless task to enumerate all the colors formed by the mixture of other colors. I will therefore give the simplest method of making various tints, leaving the reader to exercise his own judgment as regards others not mentioned. If you would produce

Straw Color	add	Chrome Yellow to White Lead
Silver Gray	"	Lampblack and Indigo to White
Rose Color / Pink	"	Carmine or Lake to White
Pea Green	"	Chrome Green to White
Lead Color	"	Lampblack to White
Wood Color	"	Raw Umber to White
Brilliant Green	"	Emerald Green to White
Bright Green	"	Paris Green to White
Drab Color	"	Umber to White
Buff Color	"	Yellow Ochre to White
Salmon Color	"	Red, Umber and Yellow to White
Flesh Color	"	Carmine to Straw Color
Dark Green	"	Black to Chrome Green
Brown	"	Red and Black to suit
Purple	"	Red to light Blue
Pearl Color	"	Blue to Lead color
Orange	"	Vermilion to Chrome Yellow
Olive	"	Chrome Yellow, Blue, Black and Red
Chestnut	"	White to Brown
Chocolate	"	Yellow to Brown
Cream White		White, tinted with Red and Yellow
French White		White, tinted with Purple color
Pearl White		White, tinted with Blue and Purple
Ashes of Roses		White, tinted with Lead color and Lake
French Gray		White, tinted with Black and Purple.

CHAPTER VI.

Mixing Paint.

THE essential qualities of paint are :

1. Body, or covering quality.
2. Fluidity.
3. Drying and hardening.
4. Binding or adhesiveness.
5. Durability.

It is not always within the power of the painter to adjust the first mentioned quality, for, as shown elsewhere, some pigments are opaque, others transparent; and no art known to the painter can change these peculiarities, yet, he may so combine them when making colors and shades, that the transparent color will be less transparent, or nearly opaque.

It is sometimes found that paint "curdles" or "thickens" in the cup, and repeated additions of liquids, to give it *fluidity* or ease in spreading with the brush, destroys its body or opaqueness. The cause of this is attributable to improper quantities or proportions of the liquids employed in mixing. If an excess of dryers be added to oil color it will immediately "curdle," and form a glutinous mass; while a lesser quantity, and yet a sufficiency to dry the paint, will not "curdle" it, providing the liquids or dryers (if not liquids) be of good quality. Therefore an excess of dryers will not always be advantageous on hurried work.

The drying qualities of paint are not always given by dryers alone. Many of the pigments are of themselves dryers, among which may be mentioned red lead, umber, sienna, and Vandyke brown; and these therefore do not require so large a quantity of dryers when mixed with oil.

Binding is an important feature in quick drying paints, or, as called, "Dead color," to insure adhesion to the work. If paint be mixed with turpentine alone, the turpentine will quickly evaporate and leave no residuum, except the dry pigment, which may be easily dusted from the work ; therefore, oil or varnish is added to paint to bind the particles together. They, unlike turpentine, form a resinous coating by absorbing oxygen in drying.

None but the oils spoken of in these pages are ever used in painting, excepting a prepared fish oil, which is used sometimes on common work.

Paint intended for outside work, and which will not be protected by varnish, is mixed as follows :

Crush the color, if in lumps, and mix to a stiff paste with linseed oil, boiled or raw—but the latter is preferable—then, if a dark color, add brown Japan or gold size, in the proportion of one-half a pint to a gallon of oil ; if a

light-color, use patent dryer in similar quantities.

If oil colors are used, mix as follows :

WHITE PAINT.

Take the white lead from the keg and mix it in another vessel with linseed oil to the consistency of thick cream, then add a small quantity of Japan gold size* and stir all well together.

Now, we have the *foundation* for two or more coats of paint, and the subsequent diluting or thinning will determine the order of application.

First Coat, or Priming.—Reduce the above mixture to the proper consistency for spreading thin and evenly with the brush, *with more oil*, using nothing else whatever, if durability is desired.

* Japan gold size is now manufactured light enough in color to mix in white paint for a dryer, without affecting the white color to any great extent.

SECOND COAT, to be applied when the priming is thoroughly dry and hard ; reduce the *foundation* mixture to the proper consistency, with *turpentine* only.

THIRD, OR OTHER COATS.—If necessary to apply more than two coats of white lead paint to *cover* the surface, the same preparation as for the second coat may be used, always giving the paint time to harden before applying another coat.

WHITE PAINT FOR INSIDE WORK.—Take white lead from the keg and mix to the consistency of cream with turpentine, then add one-half pint of light-colored carriage varnish to every gallon of paint. This will be found an excellent feature of white paint, inasmuch as it can be washed with soapsuds, and easily cleaned when desired, while white paints, as mixed by many painters, will not stand a soapsuds washing.

This paint is intended for coating over an old surface ; and the amateur must bear in

mind that *all new wood* should be coated with *priming*, as described on the preceding page, before the finishing coats are applied.

Zinc White, a superior white for finishing coats over white lead paint, is sometimes mixed to dry "flat" (the house painter's term for paint which dries without a gloss), and used in the same manner as white lead. But a beautiful finish may be given to parlors or extra work in houses by mixing the zinc in white damar varnish, forming the *China gloss* of commerce. This mixture is applied when the white lead paint is dry, and it is best to "flow" it on, that is, lay on as heavy a coat as possible, being careful to brush it well and quickly, that it may flow or settle and leave no brush marks.

OIL COLOR FOR OUTSIDE WORK,

TO BE PROTECTED BY VARNISH.

If dry pigments are used, crush the lumps, and mix to a stiff paste with turpentine, on

the stone; then put the mass in the paint mill and add sufficient Japan dryer to reduce it to a fluid state—but not too thin, as it will not grind easily. When ground fine, add linseed oil until of the proper consistency to spread nicely.

DEAD OR FLAT COLOR, as used by carriage painters and useful on any work which will be varnished, is made in a similar manner, *leaving out the oil* and adding a few spoonsful of carriage varnish to bind the paint well; then, if too thick, thinning with turpentine. This paint will dry in fifteen minutes, and is called by some workmen "quick color."

COLORS GROUND IN OIL, and put up in tin boxes, may be procured at almost any village store, and are excellent for use where the paint mill is not accessible. These colors are simply diluted with oil or turpentine, according to the purpose desired, and a little dryer added. When tints from white are desired,

these colors may be employed with great economy.

Let the workman mix a tub of white lead paint, as previously shown, and to this mixture add a little by little of the color from the tin can until the desired shade is produced.

PUTTY.

Common Window Putty.—Mix whiting and linseed oil to a stiff dough.

Carriage Painters' Putty.—Take dry white lead and mix with one part brown Japan and one part carriage rubbing varnish. A common wagon putty is made by using whiting in the place of dry white lead and adding a small quantity of white lead in oil, from the keg. This putty should be kept in water when not in use, to prevent drying.

Cementing Putty, *for water or gas pipes.*—Take red lead and white lead, equal weight, and mix with boiled oil.

PUTTY FOR FURNITURE.—Mix whiting, Indian red and lampblack in equal parts, with carriage varnish, adding a small piece of beeswax to the putty, by heating the same and pounding it well with a mallet, until thoroughly amalgamated.

HARDWOOD PUTTY.—Take fine sawdust of the same kind of wood, and mix with strong glue.

PUTTY FOR WALLS.—Whiting mixed with glue, or calcined plaster (gypsum) and water.

CHAPTER VII.

Milk Paint.

FOR painting in rooms where the smell of oil or turpentine would be objectionable, a preparation may be made, as follows :

Take eight ounces of freshly slaked lime and mix it in an earthern vessel with three quarts of skimmed, not sour milk ; then in another vessel mix three and a half pounds of *Paris white* with three pints of the milk. When these mixtures are well stirred up, put them together and add six ounces of linseed oil. Mix these well, and it will be ready for use. This preparation is considered by many to be equal to oil paint, and is excellent for

walls and ceilings. Any shade may be made by the addition of dry pigments.

DISTEMPER PAINTING.

The difference between oil painting and distemper painting is that in the latter the colors are mixed with size and water, instead of oil.

Size for this work is generally made by boiling pieces of parchment, or the skins of animals, and evaporating the solution to the proper consistency; but a solution of glue will answer every purpose of the amateur.

The colors used in distemper painting are the same *dry colors* used in oil, while the foundation or base is whiting instead of white lead.

Kalsomining comes under the head of distemper painting, and will be noticed in this connection. The first requisite is to have the walls perfectly clean. If there be grease or lime on any part, it must be scraped, and

made perfectly smooth, all imperfections, such as cracks or nail holes, filled with a putty made with plaster of Paris or whiting, and time allowed for the putty to harden before laying on the distemper.

Preparing the Mixture.—Take half a pound of dissolved glue and ten pounds of zinc white (dry) if for extra work, or common whiting if for ordinary work, in the same proportion. Mix the white to a thick cream with warm water, then add the dissolved glue, and stir all well together. If for side walls, more glue will be required to insure it from rubbing off. A common whitewash brush will answer to lay it on with, and it should be applied while warm, adding hot water to thin it if found too thick to spread easily.

In distemper painting it may be found expedient to coat the walls with a thin sizing of glue before applying the paint, and some painters prefer a coat of good oil paint to pre-

vent dampness from striking out and discoloring the distemper coats.

Coloring plaster work in distemper differs from fresco painting, inasmuch as the latter is applied while the plaster is quite wet, and is thereby incorporated with it, whilst the former is applied when the plaster is dry, and lasts only so long as the sizing with which the colors are bound withstands the action of the atmosphere.

I believe it is generally understood, that with a judicious admixture of the primitive colors, red, blue, yellow, and white, any tint can be produced, especially the various shades and tints of drabs, which are most in demand. The color called French gray is made by adding a small quantity of indigo to the white distemper paint.

It was the practice of painters until of late years, to lay distemper colors evenly, one way only, as in oil painting; but the present method is to pass the brush in every indis-

criminate direction, leaving it in that state which it is considered gives it a more solid appearance. A more recent method for obtaining the like object is called stippling. The surface is lightly struck with the end of a large hog's-hair brush, with a perfectly flat face and conveniently shaped handle.

The expense attending the kalsomining of a room twelve by fifteen may be summed up as follows :

One half pound glue at 25 cents per pound.....	0.12
Ten pounds whiting at three cents per pound ..	0.30
One half pound glue,—extra to side walls	0.12
Whitewash brush.....	1.00
	$ 1.54

The brush being uninjured, when used only on this room, is of course not to be taken into account as the *actual cost* of work, and its price should be deducted, making fifty-four cents the sum total. Ten cents worth of blue, yellow, red, green, etc., in dry colors, will form any desired tint.

PAINT FOR BARNS AND OUTBUILDINGS.

A cheap and durable paint, not before mentioned in these pages, is called Fire-proof or Mineral paint. There are several shades of this paint, namely, Yellow, Red, Brown, Chocolate, Slate, etc., and it is sold in barrels of three hundred pounds each, for two and a half cents per pound. When mixed with oil it is a very durable paint for outbuildings, fences, etc.

But a cheap paint may be made as follows:

Put half a bushel of good lime in a clean barrel, and add to it sufficient water to make a thin whitewash; stir it well with a flattened stick until every lump of lime is dissolved, and add:

50 lbs. mineral paint at two and a half cents	$1.25
50 lbs. whiting, at two cents	1.00
50 lbs. road dust, finely sifted	.00

Then add linseed oil, and mix the mass to a thick paste, being careful to have it well amalgamated; then thin to the proper consistency

for spreading with the brush, by adding sweet buttermilk fresh from the churn, in small quantities at a time, to give chance for the ingredients to assimilate. This paint will also be improved as regards covering a great extent of surface, by the addition of one gallon of soft soap.

PAINT FOR IRON FENCES.

Mix two pounds chrome green, one ounce of lampblack, and one ounce of chrome yellow, with boiled oil, adding a little Japan dryer, and a very nice bronze green will result. Clean the iron railing well, and apply a good coat of this paint. When not quite dry, rub over the prominent parts with gold bronze. (See *Bronzing.*)

WHITEWASH.

A good whitewash for walls is made by adding to fresh slaked lime and water a

solution of starch, a little salt, and a few drops of dissolved indigo or bluing.

Boil the starch to a thin gruel, adding the salt while boiling, and pour the whole into the lime and water while the latter is warm from the heat engendered while slaking ; then add the bluing to remove the yellow tint of the mixture, and use. Colors may be added if desired, but the use of poisonous colors, such as Paris green, should be avoided.

SIZING FOR WALLS

Size to make paper stick to walls is made by adding eight ounces of dissolved glue to a pail full of hot water. Apply the preparation to the wall with a whitewash brush, being particular to touch every part, especially the top and bottom ; allow it to dry a little and then hang the paper, using paste made as follows :

PASTE FOR PAPER HANGING.

For a room which will require eight or nine pieces of paper, four pounds of flour will be sufficient. This should be beaten into a stiff batter with clear cold water. Then, having a vessel full of boiling water at hand, and a vessel containing the batter, large enough to contain two pails full, pour the boiling water upon the batter, stirring it briskly, and it will be observed that the batter will swell and its white color change to a yellowish hue. When this occurs, stop pouring in the boiling water, and a fine smooth paste will be found, suitable for any description of paper hanging. Some persons add alum to the paste, others resin, but it will be found that the scalded flour will stick as well, and no injury can occur to the paper, as is frequently experienced when useing flocked paper hangings with alum or resin in the paste. Another method of making paste, but not as certain of good results, is to

mix the flour and cold water to the consistency of milk, and heat it to the boiling point, over a slow fire.

HANGING PAPER.

The first consideration is to have the wall well cleaned, the old paper or whitewash scraped off, all cracks filled with plaster of Paris, and allowed time to dry, then the sizing, as previously spoken of, applied; then with a sharp pair of scissors cut the blank strips from the left side of the paper, the blank strip on the other side forming the lap; or, if heavy flocked paper, both edges should be cut and the paper put on the wall without overlapping. Now, having cut the paper the length desired, lay it face down on a table or board, and apply the paste with a paste brush; or a common whitewash brush will answer, spreading it evenly and as quickly as possible. Then place it in position on the wall, beginning to press it gently down to the same, with a damp

cloth, at the top, following down until the bottom is reached. Continue in this manner, being careful to match the figures, until the whole is covered; then cut out and paste on the border, and the work is complete. It is usual to have the strips of paper a little longer than is necessary, so that it can be cut off neatly at the base board, after it is put on, as the base board is not always straight or parallel with the ceiling.

CHAPTER VIII.

Graining.

IN describing the methods of imitating the grain of wood, I will mention only the simplest, that the uninitiated in the art may readily execute a fair specimen, without the array of tools employed by the professional grainer.

The colors used in graining may be mixed in oil or distemper, the latter being preferable, for if not satisfied with the first attempt, it is easily washed off with water, and the work done over again.

Surfaces to be grained should be painted with at least two coats of paint, as described on page 51, tinted as follows:

For light-colored oak, tint the white paint with yellow ochre, to a nice cream color.

For medium shade oak, add a little umber to the cream color.

For dark shade oak, add umber and a little Venetian red to the cream color.

The last coat, or ground color, should be made to dry with an "egg-shell gloss," *not* "*flat*" that the graining mixture will not be absorbed, and thereby make the graining appear dirty.

GRAINING MIXTURE IN DISTEMPER.

Take equal parts of yellow ochre, burnt sienna, and raw umber, and mix with ale, beer, or vinegar and sugar. Then with a bristle brush spread on the mixture—or as termed by grainers, "*rub in*" as smooth and evenly as possible; or, it may be applied with a sponge, going over only a small portion or panel at a time, for the distemper colors dry quickly. Then with a graining comb made of leather or

gutta percha, make the coarse grain by drawing the comb over the surface in a zigzag manner; then with a finer steel graining comb draw over the whole panel again in the same direction; then with a piece of soft muslin folded over the thumb of the right hand, make the heavy grain or figures by wiping out the graining mixture; this done, lightly pass the fine comb over the work again, or with a thin flat bristle brush, lightly brush over the surface to blend or soften the heavy lines. Proceed in this manner over all the parts to be grained, and by imitating the real wood as near as possible, a very fair piece of work will result. A professional grainer would overgrain, and mottle, and stain, and glaze, etc., but as a description of these processes would tend to embarrass the amateur, I do not deem it judicious to extend upon these extras.

OAK IN OIL.

Melt a small piece of beeswax in a little linseed oil, mix the graining colors with it, and thin with turpentine, using the same pigments as above. Other woods are imitated in a similar manner, varying the *ground* and graining mixture to suit.

Maple.—The best ground for maple is a light cream, and the graining color made with Vandyke brown, and raw sienna.

Mahogany.—Ground Venetian, red and yellow, graining mixture, Vandyke brown, and burnt sienna.

Rosewood.—Grain with burnt umber, over a ground of Indian red lightened a little with vermilion, then glaze over with carmine or lake.

Black Walnut.—Ground color, burnt umber and white. Grain with burnt umber.

STAINING.

Take nitric acid and dilute with ten parts water; wash the wood over with it, using a

piece of sponge tied to a stick, and use care that the acid does not get on the hands. This will produce a fine mahogany color.

To produce a rosewood finish, grain the stained wood with burnt umber, and glaze with carmine or lake.

Asphaltum thinned with turpentine will stain pine a beautiful black walnut color. Stained wood must be varnished over.

IMITATION OF GRANITE.

Prepare a light drab ground, then take a stiff paint brush dipped in thick white paint and spatter the ground over it, by striking the brush against a stick held in the left hand. When well spattered with small fine white spots, go over it again in the same manner with black paint. This will give the required imitation, and is a very simple process.

BROWN STONE, PORTLAND STONE, &c., may be imitated by coating the work over with clear

oil color, the shade desired, and then sifting or dashing clean white sea sand over it.

SMALTING.

Smalts are ground glass, or other substance of various colors, black, blue and green, being the colors most commonly used. If a signboard is to be smalted, it must be painted with two or three coats of white or lead colored paint; then the letters must be put on, roughly outlined and gilded. Then mix a stiff oil color as near the color of the smalts to be used, as possible, and with a sable-hair pencil paint the whole surface of the sign outside of the letters, cutting around each letter neatly, and then with a fine sieve the smalts are sifted on to the fresh paint, allowing the sign to lie in a horizontal position until sufficiently dry to retain the smalts when raised perpendicularly; dust off with a soft brush all superabundant smalts, and the work is completed.

FLOCKINGS is a finely powdered wool, and is used in the same manner as smalts. They retail for one dollar per pound, average.

MARBLING.

A fine white marble imitation is made by painting the work with white lead paint, finishing it with China gloss. Then when dry and hard rub the surface until smooth with fine pumice-stone and water, wash clean, dry well, and then holding a lighted candle near the surface, allow the smoke to form the various shades, tints, and veins desired. A black crayon may also be used to form fine irregular lines; then with a very soft hair varnish brush apply a light coat of white Damar varnish, being very careful not to disturb the smoked figures.

Black or variegated marble is made by streaking the surface with colors mixed with

carriage varnish and turpentine, using a feather to form the fine lines, and a sponge or crumpled paper smeared with color and then daubed on the work.

CHAPTER IX.

Gilding.

GOLD leaf may be procured at any supply store, in books, containing twenty five leaves, each three inches square. The price per book at the time of this writing is fifty cents. The gold is beaten out with a hammer to a surprising degree of thinness, rendering its use a matter of difficulty to the inexperienced.

When letters, or ornamental work on a flat surface, are to be gilded, it will be found a very delicate operation to lay the gold without waste, in the same manner as a professional gilder; and the following method of preparing the leaf will be best for the beginner. Pro-

cure a clean sheet of tissue paper and rub it over on one side with a piece of white wax, or common beeswax will answer. The paper must be placed on a smooth board and the wax rubbed briskly over the surface, until the paper has received an even coating; to this the gold will adhere. The paper must then be cut into squares a little larger than the gold leaf; then carefully open the book of gold and lay the waxed side of the tissue paper on the gold, which will be thus secured and ready for use. Continue with the whole twenty-five leaves, and the tissue paper may be used over and over again.

TO USE THIS PREPARED LEAF.—When the size which we will suppose to have been laid on in the desired form, is tacky, that is, when by rubbing gently over it, it appears dry, but when the finger is placed directly upon it, it is "sticky," we take the tissue paper in the left hand, and with the right gently press the gilded side to the work. The operator will be

able to see where any portion of the gold remains on the waxed paper and can place it on parts of the work that it will fit best, thereby saving every particle of gold, without the slightest trace of joining being perceptible.

For large work not exposed to the wind, the leaf may be laid directly from the book. To do this, take the book in the left hand, raise a paper leaf carefully, then, holding the book close to the work with its front edge pointing downward, gently roll the same upward, leaving the gold leaf on the size. Continue in this manner until the work is completed. When the leaf has been laid upon the size, slightly moisten the end of the finger by rubbing across the head, and the pieces of superfluous gold leaf will adhere to it and can be carefully placed on any small spots not covered; then with a bunch of cotton gently wipe the work over, to remove all the gold not secured by the size.

A preliminary process of laying gold having

been unnoticed, I will now mention it. When a painted surface is to be gilded, it must be prepared, to prevent the gold from sticking to any part not covered with size. This is done in various ways. Some painters wash the surface over with a thin solution of starch, allowing it to dry before putting on the size. Others rub the surface with a potatoe cut in slices, forming a watery film of starch, which, when dry, is anti-adhesive. But the method employed by first-class workmen is as follows.

Tie up in a piece of muslin a small quantity of common whiting, forming a "pounce bag," with which the surface is daubed or pounced over, and a thin coating of the powder is left upon it, which effectually prevents the adhesion of the gold. The sizing is now put on as desired, and when it is "tacky" the gold leaf is laid. If the size is not in a proper state to receive the gold, the work will be rough and unsightly, or when too dry the gold will not

adhere to it. Either of the *preventives* may be easily cleaned off, with water, when the gilding is completed, using afterwards a soft chamois skin to dry the surface.

When gilding is to be done on a white or light-colored surface, it is best to add a little dry color to the size, but for dark grounds dusted over with whiting, no color will be necessary.

Silver leaf is also put up in books, but as it is not beaten so thin it may be handled with less trouble.

Dutch Metal is a poor imitation of gold leaf, worthless to the painter, except in scenery for theatres or cheap temporary work.

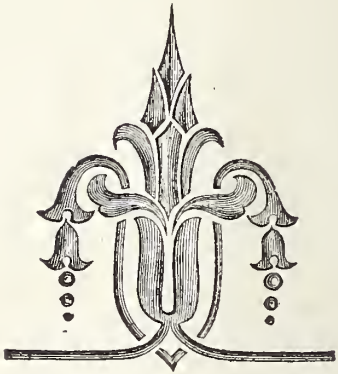
GILDING ON GLASS.—This process is fully explained in the "Carriage Painters' Manual." Therefore I will only mention it here.

The size used is dissolved isinglass, or the white of an egg, or clear water. The gold leaf is generally laid on with a "tip" (a thin layer of camels'-hair glued between two cards.)

Gilding Picture Frames.—This art is not connected with the painter's business, in any particular, although such articles *may le* gilded by the painters' method of gilding; but the fine finish—such as burnishing, matting, etc., cannot be produced, and it is therefore best to leave such work with the frame and moulding gilder.

BRONZING.

Gold Bronze is a fine powder made by grinding gold leaf or foil in honey, and then washing and drying the sediment. The size used for bronze is the same as that for gold leaf, and it is put on by dusting or rubbing it over the size with a velvet or plush pounce bag. In some cases it is used in the same manner as dry color, being mixed with varnish and turpentine; but its metallic lustre is not so good when used in that way. Silver, copper, and various colored bronze powders are used in ornamental work. And some very



fine specimens of work are done with bronze powders put on over stencil plates.

STENCILING.

By this art the painter may execute ornamental work quickly and economically. The articles required in making a stencil are, a sheet of well-sized writing-paper, a lead pencil, and a sharp penknife. Fold the paper, allowing the edge of the fold to form the centre of the pattern ; then sketch any design you wish, leaving *bars* to hold the parts together, as seen in the engraving herewith ; then lay the paper upon a piece of glass and cut out the figure with the penknife. Patterns similar to these may be used in ornamenting oil cloths, painted floors, curtains, borders for walls, and other purposes.

To make a stencil for two or more colors, take the *whole figure stencil*, and laying it on another piece of paper, mark it carefully around; then cut out the parts desired to be shown in

one color, leaving the other parts uncut. Then stencil with a brush the whole figure again on another sheet, and also the partly cut stencil over that; cut out all but the parts covered by the last stenciling, and you will have two stencils, which when put on the work, one over the other, will form the whole figure or pattern, and thus they may be multiplied indefinitely.

Another method of stenciling, nearly the reverse of the above, is used in imitating ground glass. Draw the desired figure, and cut it out of the paper, saving the *figure* complete, *not the hole* in the paper as before; then with thin paste or gum, stick the paper to the glass, having every part well pressed down; then with a stencil brush dipped in thick white paint pounce with the end of the brush, or "stipple" as it is termed, the glass all over. When dry, raise the paper by putting the blade of a knife under it, and the figure will be found clearly defined on the glass.

Lines or stripes may be added around the edge of the glass by scraping through the white paint with a stick drawn along a rule or "straight edge."

TRANSFERRING.

Transferring pictures from paper to painted surfaces is an art easily acquired, and many beautiful jobs may be executed by it. The process is as follows: The ground should be white or light colored and smoothly varnished; then lay on an even coat of light-colored carriage varnish and allow it to *set* (nearly as dry as if for gilding).

The paper must now be prepared. If a colored print, make it quite wet in salt and water, but if not colored, clear water will answer. Lay it between some old newspapers, to remove the water from its surface. Now, supposing the varnish to be sufficiently set, carefully lay the paper, face down upon it, and gently press it smooth all over. When this is done,

allow it to stand until the varnish is dry; then dampen the paper with cold water and begin removing the paper by rubbing with the finger. It will be found to roll up in small rolls; and this wetting and rubbing must be carefully continued until the whole of the paper is removed, when the picture will be found intact upon the paint. It must then be varnished over to bring out its beauty.

Pictures may be transferred to glass in the same manner, and then colored on the back with oil colors, forming an imperishable picture, almost equal to an oil painting in point of beauty.

DECALCOMANIE.

This is another method of transferring, the pictures being prepared expressly for the purpose.

The varnish used is called cementing varnish, and can be procured where the pictures are for sale. The face of the picture is coated

over with the varnish, and it is then placed directly upon the place desired. Press it gently down to the work, then dampen the paper, and begin its removal by lifting one corner and slowly raising the entire paper from the surface, leaving the picture intact. A solvent for the superabundant varnish is next applied with a soft brush. It is called "detergent," and can be purchased with the varnish. This removes all varnish outside of the picture, and does not injure the picture or the varnish under it. Vases, china ware, glass, and fancy boxes may be ornamented in this manner, and the picture will have every appearance of the finest artist's work. The ornamental work on carriages is frequently done by this process. Decalcomanie pictures which are covered with gold leaf on the back are best, and the student in this art may procure catalogues of the pictures, with size and price attached, from the dealers. (See other pages.)

TRANSPARENT PAINTING ON MUSLIN WINDOW SHADES.

Stretch the muslin on a frame and secure it by tacking around the edge. Then mix a small quantity of fine flour paste, into which is added a little dissolved white glue and a small piece of white bar soap; the latter article will render the muslin pliable and soft. Spread a thin and even coating of this over the muslin, and set aside to dry.

Then a coat of pure linseed oil, diluted with turpentine, is applied to the whole or part as desired, laying it on quickly and smoothly to ensure an even, transparent surface.

The colors used are, Drop or Ivory Black, Umber, Ultramarine, Paris Green, Verdigris, Sienna, Asphaltum, and any other transparent colors.

An outline of the design is drawn with a small pencil, with black or umber, after which the colors may be applied, more or less diluted, as more or less transparency is desired.

In general the brightest colors should be applied first, and the darker shades over them.

These colors should be laid evenly, with soft brushes, and should any part be made too dark, the best way is to scrape off with a stick before the color gets dry.

Glass slides for the magic lantern may be done in a similar manner.

PEARL INLAYING, OR PAPIER MACHE.

This is a beautiful art, and useful for the ornamentation of boxes, table tops, sewing machines, etc. Prepare the work by coating it with a heavy flowing coat of black Japan; then before it is dry, procure some flakes of pearl at the supply store, and lay them on the black surface, pressing them also into the paint until they are level with the surface; then with colors, form leaves and flowers, allowing the pearl to form the body of the flower or leaf, and shade all up nicely.

Pearl is also used in Glass Sign lettering, a full description of which may be found in the Carriage Painters' Manual.

MAKING A RUSTIC PICTURE.

A neat and attractive picture may be made to ornament the parlor or sitting-room as follows: Gather from the conservatory a variety of small leaves and buds, and lay them between the leaves of an old book to flatten or press them, putting a large stone or other weight upon the book to hasten the process. Then procure a sheet of fine uncalendered drawing-paper, and removing the leaves from the book, arrange them to form a bouquet on the paper, which must be laid smoothly upon a soft wood surface, and the leaves be held firmly to the paper by pins, put through every part not closely pressed to the same. Then, when all arranged and pinned fast, take a tooth brush or similar article, and slightly wetting the bristles

with black writing ink, draw it across a small stick in such a manner that the bristles will be bent, and then quickly released to take their original position. This will cause a fine spatter of the ink upon the paper ; care must be taken to not overload the brush with ink, to make too large drops of ink. Continue the spattering over all, leaves, pins, and paper, allowing the centre of the pattern to receive the most ink, and the edges blending off to none ; when done, remove the pins and leaves, and the forms of each leaf, stem and vine will be found in pure white on a tinted ground.

The leaves may be used over and over again, and figures cut out of paper may sometimes be added, if desired, as, for instance, *a cross*, with the vines and leaves neatly arranged around it, or an old archway with trailing vines.

This style of picture is new, and when put in a rustic wood frame forms a very handsome and original ornament.

PAINTING FLOWER STANDS.

It is customary to paint stands on which flower pots are to stand, a bright green color; but the artist would never advise that color for the purpose, as the brilliancy of the paint has an injurious effect upon the colors of the flowers and leaves. Therefore, when a flower stand is to be painted, it will be best to choose a dull color, if the flowers are to be the prominent feature.

A rich brown, chocolate, oak, black walnut or umber color will harmonize well, and the green of the plants and leaves will appear richer and more pleasing to the eye.

POLISH FOR MAHOGANY.

Take three ounces of white wax, one and a half ounce of castile soap and one gill of turpentine. Shave the wax and soap very fine, put the wax to the turpentine and let it stand twenty-four hours; then boil the soap in one gill of water, and when thoroughly

dissolved, put the two mixtures together ; rub this over the wood, and a fine polish will be produced.

POLISH FOR WOOD.

Take a strip of woollen cloth two yards long and two inches wide, and roll it into a tight roll, then tie another piece of the same over the roll, covering one end smoothly and allowing the cloth to extend beyond the other end to form a handle to hold it with while rubbing. Then saturate the flat end with boiled linseed oil, adding at the same time a few drops of shellac varnish. Rub the wood with this in a circular manner, renewing the oil and varnish as occasion requires, until a fine polish is obtained.

VARNISHING FURNITURE.

When furniture requires re-varnishing, it should be thoroughly cleaned, by rubbing every part with pulverized pumice stone and

water; then when well washed and dried, the varnish should be laid on in a warm room. Furniture varnish, as obtained from the store, is generally ready for use; but if found too thick to spread easily with a brush, set the varnish vessel near the fire, being careful that it may not ignite.

Put the varnish on quite plentifully and rub it lightly with the brush until nicely levelled down, and there are no small air bubbles on the surface. Do not touch the varnished surface with the brush after once leaving it. If more than one coat of varnish is requisite to produce the desired polish, the surface should be rubbed over with pumice stone and water, between each coat, to remove small pits or imperfections, and to form a better ground on which to *flow* the succeeding coat.

WAXING FURNITURE.

Furniture may be coated with a solution of beeswax in turpentine, and many prefer this method to varnishing, as it is easily repaired if scratched or bruised.

Two ounces of wax melted, and added to double the quantity of turpentine, is all that is required. Rub the mixture over the work with a woollen rag, and then rub briskly with a piece of fine cork until a gloss is obtained. If it is necessary to repair the polish at any time, rub it briskly with the cork, and it will appear as well as when new. Coffins are frequently waxed, instead of being varnished, as it is quickly done, and ready for immediate use when the rubbing process is finished.

TO CLEAN PAINT.

Take whiting on a dish and moisten it with water, then rub the paint over with it, using a woollen rag for a rubber, and wash off clean

with water. Cold tea grounds are also excellent for rubbing or cleaning paint.

PAINT FOR FARM TOOLS.

Take white lead and mix the same as directed for outside work, with oil, etc.; then add in small quantities at a time, Prussian blue ground in oil, until the desired shade is obtained, then add a little carriage varnish to give it a gloss, and it will be found a very durable paint for mowing and reaping machines, plows, harrows, farm wagons, etc.

The white lead base gives this durability, and any color that will be suitable may be used in the place of Prussian Blue. (See *Combination of Colors.)*

PAINT FOR MACHINERY.

Paint for stationary engines, laths, planers, and other machines, should be mixed to dry "dead," and be varnished, if a good job is

desired; and the reader will find in Chapter VI. full directions to mix such paint. For cheap, hurried work, mix any dry color, in carriage rubbing varnish, and apply; this gives the color and the varnish gloss at one application, and will dry in a short time. Green is the most commonly used for machinery, trimmed, or striped with black, or gold color, or bronze; if the latter is used, a cheap ornamentation may be given, by the stenciling process, Chapter IX.

PAINT FOR HOUSEHOLD FIXTURES.

For chairs, tables, bedsteads, etc., mix a light brown color, as directed elsewhere, making it quick-drying and "dead;" then, when the work has been coated over and is dry, mix lampblack with old ale, beer, or with vinegar in which a little sugar has been dissolved, and with a sponge dipped in the mixture (which should be quite thick) streak the work, as if graining it. This will dry in a

few minutes, when it must be varnished with furniture varnish. A fine appearance may be given by mixing a little lake or rose pink, finely ground, in the varnish, forming a glaze, and imitating rosewood.

PAINT FOR IRON WORK.

The irons of a fire-place, or the mantle-shelf may be coated with Black Japan, as used by the carriage-maker ; or it may be imitated by mixing lampblack in carriage rubbing varnish, using no oil or turpentine.

TO IMITATE GROUND GLASS.

Dissolve one quarter of a pound of gum arabic in a pint of boiling water, and add whiting until the mixture is of the consistency of gruel or stiff paint. Then with a sponge dipped in the mixture, daub or pounce the glass over, on the inside, until a smooth or even appearance is obtained, then lay a rule or

"straight edge" across the glass and with a pointed stick mark the clear lines.

POUNCING ORNAMENTS, ETC.

Draw the desired design with a lead pencil, on writing or drawing paper, and then make pinholes as close together as possible, over every line. Lay the pricked pattern upon a sheet of white paper, and dust over it any dry color from a small muslin "pounce bag," and upon lifting the pattern a perfect duplicate will be found on the white paper. This process is useful in copying, or in lettering when several signs are to be done alike, or for ornamenting walls. The patterns should be carefully preserved, for they may be used over and over again.

ANOTHER METHOD.

When the design has been drawn on quite thin paper, rub the back of the drawing over with a paste made with tallow and dry color

such as Indian red, lampblack, or dry white lead, leaving enough on the paper to slightly cover it ; then lay the drawing on the work, holding it firmly while you trace the pencil marks with a pointed stick or bone. The color on the back will be transferred to the work only where the stick passed over, making a perfect copy. This pattern may be used many times, by slightly rubbing the back over with the fingers after each transfer.

PAINTING IN IMITATION OF DAMASK.

Walls are sometimes painted to imitate woven material, or particularly damask, and a fine effect may thus be produced in a very cheap and easy manner. The wall must be painted with two or three coats of white lead paint, and allowed to harden. Then draw some nice design, of leaves, flowers, or scrolls, and make a pounce pattern, as shown on another page. This is to be pounced on the

wall in the form desired, and afterwards well marked over with black crayon or lead pencil.

A mixture of melted beeswax and some quick drying varnish is then made, and a small quantity of cheap dry color added to give it substance or body; but not sufficient to make it fully opaque, for the lines of the pattern on the wall must be seen through the paint.

Now apply a coat of this mixture all over the wall, and immediately proceed to *comb* it—as in graining—using a medium coarse graining comb—first diagonally down from right to left, then from left to right, and lastly in a vertical direction. This produces the appearance of cloth, with coarse threads. Now with a camels'-hair pencil go over the pattern and smooth out the marks of the comb on all parts within the outlines. Allow all to harden, which will be several days, perhaps, then proceed to paint over it with "flat" color, any

shade or tint desired. White, tinted with green, blue, or carmine, will be suitable.

ANOTHER METHOD.

The wall being well painted and dry, and the pattern well outlined, proceed to paint over every part of the pattern—only—with the beeswax and varnish mixed quite thick with white lead. Then having fine sea sand, well dried, sift it on to the fresh paint, allowing it to get perfectly hard. Then dust off the loose sand and lay on tinted paint, as before. The wall will be smooth and the figure roughened, and it will not only look well, but it will surprise many who do not understand the art.

ANOTHER METHOD.

Apply a thick coat of the mixture to all parts of the wall. Then, having designs cut in paper, proceed to lay them on to the prepared surface, pressing every part well down to the

gummy mixture. When the papers are all put on, sift sand as before, all over the work; this will adhere only to the fresh preparation, and the parts covered with paper will be smooth. Paint over as in the above method with "flat" paint. The paper may require two coats, and it will be best to apply a coat over those parts only, at first, going over all with the second coat.

TO PAINT A FARM WAGON.

The first in order is to thoroughly clean the grease and dirt from the fifth wheel and hubs, then with number two and a half sandpaper rub over and smooth down every part of the work. If the old paint is chipped off in places, they should be smoothed with an old file. This preliminary process having been completed, run the wagon into the carriage house or barn, and raise the wheels from the floor by placing barrels or boxes under the

axles. Dust off every part well, and prepare the paint.

In choosing the colors for this work we should aim at durability rather than beauty, and select strong-bodied colors. This may be decided by reference to Chapter III. A compound color having white lead for its base, will be best for the running part and wheels; while browns, greens, or red will answer for the body.

When a choice of color is made, if a dry color only, or one to be mixed with white lead, mix with boiled oil two parts, carriage rubbing varnish one part, and add a little turpentine. If the colors are those put up in tin boxes and ground in oil, a smaller quantity of oil will be required, and a little brown Japan may be added to assist in drying.

Now, having the paint prepared, begin by coating the body, laying the paint on plentifully and smoothing it well with a partly worn or a well-bound brush. (A flat bristle brush is best.)

The under parts are next in order, finishing the wheels lastly. The work should now be allowed to stand until perfectly dry. Then, the holes, cracks and other imperfections are to be filled with putty. (See Chapter VI.)

In this class of work it will be best to color the putty by mixing dry color with it, as near the color of the ground work as possible. When this is done and the surface well dusted, proceed with the second coating in the same manner as before, and give time to harden.

Now, if the paint has dried with a glossy appearance, it must be rubbed over with a bunch of curled hair or moss, to prevent the varnish from "crawling," or it may be washed with clean cold water, and dried with a chamois skin.

Striping should not be attempted, until the operator has become accustomed to the use of the pencil, by practicing the art on a wheel or board painted for the purpose, or a failure will be sure to follow. By watching the move-

ments of a striper while at work, the student can acquire a sufficient knowledge to enable him to *practice* the art, and it can be learned in no other manner. Ornamenting, if desired, may be done by the stenciling, transferring, or decalcomanie process, already referred to.

Ordinary carriage varnish will be good enough for this work, and a quart will be sufficient, costing perhaps one dollar twenty-five cents. The varnishing process is similar to that of painting, but the varnish should be applied, freely used, and quickly levelled with the brush, care being taken to spread it evenly, that no "runs" or heavy flows be left to injure the appearance of the work. Give the work sufficient time to harden before using it.

TO RE-VARNISH A CARRIAGE.

The cleaning process is always first in order; this done, take pulverized pumice-stone on a shallow dish, and wet it well with clean water; then with a woollen cloth dipped in the pumice-

stone, rub over every part of the carriage, until the surface appears smooth and clean. Wash the pumice-stone off as you proceed from part to part, for if any be left to dry on the surface it will be found difficult to remove it.

When the rubbing process is completed, set the axles on barrels, that the wheels may clear the floor, and if it be necessary to paint over any bruised or worn-off places, it should now be done with "quick color." (Chapter V.)

When this "touching up" is dry, take hard-drying varnish and begin with the body, laying on the varnish freely, and "lay it off" as quickly and as evenly as possible. The more varnish you get on and have it flow level, the better the work will look and wear. Be particular to have everything clean or free from dust. Finish the wheels lastly, and keep them slowly revolving for a few minutes, until the varnish is "set."

The dash, if of patent leather, may be varnished with the same varnish, if necessary, but

the top or curtains should be cleaned, and a coat of enamelled leather varnish applied. If this cannot be easily procured, wash the leather with warm water and castile soap, and apply a good coat of neatsfoot oil, to which is added a little lampblack. This must be well rubbed into the leather, and a thin coat of shellac varnish, to prevent the black from rubbing off, would do no harm.

To Duplicate Plaster Casts.

PREPARING THE MOULDING COMPOSITION.

PUT four pounds of glue in a pan and cover it with water; let it stand half an hour, or until about half saturated, care being taken not to let it soak too long. Then pour off the water and let it remain until it is soft. Put it in a tin pail and set the pail in another vessel, partly filled with hot water; set the whole over a fire and let it remain until thoroughly melted; then add one quart of sugar-house molasses, and mix well by frequent stirring. Allow the mixture to boil about an hour, or until it gets "stringy," as in making candy. When this occurs set it aside to cool.

PREPARING THE MOULD.

The image, or whatever is to be copied, should (if of plaster,) be coated over with a thin solution of starch and allowed to dry well; then its surface must be well rubbed with sweet oil to prevent the composition from adhering to any part.

Now, form a cylinder of stiff paper or pasteboard, at least one inch larger in diameter than the greatest projections of the image, and it should be long enough to project three or four inches above the head of the same, to allow for shrinkage of the composition. The image must now be placed on a smooth table or board, and the cylinder put around or over it, and the joint between the cylinder and table made water-tight by plastering with plaster-of-paris and water.

The composition which was previously set aside must now be heated sufficiently to liquify it, when it may be poured directly into the

cylinder, until the latter is filled; allow this to stand eight or ten hours to harden.

TO REMOVE THE PATTERN FROM THE MOULD.

The composition being cold and hard, chip off the plaster from around the base and run a sharp knife between the cylinder and table to separate them; then with a large round stick, slowly push the composition in which the image is now imbedded, through the cylinder, being careful not to injure the form of either.

Now place the composition on its end, as it was while in the cylinder, and with a sharp knife divide it, by cutting from top to bottom in an imaginary centre line, until the knife reaches the image. The rubber-like composition will yield as the parts are slowly pulled asunder; thus, the image or pattern is removed, and when the composition is placed together, and returned to the cylinder, a cavity, corresponding in every detail with the pattern, will be found.

CASTING THE IMAGE.

The cylinder containing the mould must now be placed with the open end upward, and a cream-like mixture of plaster of paris poured into it, and well shaken. This mixture is allowed but a few minutes to "set," when the liquid portions must be poured out again. This operation forms a thin film over every part of the mould, and should be repeated when the first coating is set sufficiently hard. Or a small amount of plaster may be mixed and poured in, and the mould rolled around and around carefully by the hands, letting the creamy plaster flow over every part of the inner surface of the mould, which, becoming set, will form a shell or coating of moderate thickness. More plaster may be mixed and put in, and the process repeated until the casting has acquired a sufficient thickness.

When completed, and the plaster is hard, the same process as employed to remove the

pattern should be repeated, excepting the cutting, for the composition being already in two parts, it will be easily removed, and thus the operation may be repeated indefinitely.

TO MAKE ORNAMENTAL WORK FOR FRAMES, BOXES, ETC.

COMMONLY CALLED "PUTTY WORK."

Take dissolved glue (see Chapter III.) and mix with whiting to a stiff dough, by kneading with the hands in a warm place and frequently holding the mass over a steaming kettle of water, to soften it. This forms the composition for making the moulds, and for casting the ornaments.

Take an ornamented box or frame, and slightly oil it, to prevent the material from sticking, then press a well kneaded and softened lump of the composition on the part you wish to duplicate; keep it in position a few minutes, when it may be removed, and there will be found an indenture corresponding to the

figures of the pattern. This must now be left to harden, when it may be used to mould in,—the process being the same as in making the mould, excepting, that when the composition has been pressed into the mould, a sharp case knife is used to cut off all superabundant composition and leave the figure level with the face of the mould.

The figures may now be glued on to the desired place and painted over.

Glue will not adhere to a painted or varnished surface.

Items of Interest.

To Remove Stains from Marble.—Take two parts of common soda, one part of pumice-stone, and one part of finely powdered chalk; pass these through a seive and mix with water. Rub the marble with this mixture and wash off clean.

To clean Engravings.—Dissolve one ounce of

crystals of oxalic acid in a gill of water, and saturate the engraving with it.

VARNISH FOR MAPS AND PICTURES.—Mix one ounce of Canada balsam and two ounces of spirits of turpentine. Wash the map over with isinglass in water, and when dry, apply the varnish with a soft brush.

CEMENT.—Common shellac dissolved in alcohol will be found an excellent cement or glue for broken furniture.

BIRD CAGES should be painted with "dead color" and varnished. Oil paint is said to be injurious to the bird.

BOATS should be painted with *raw* oil in the mixture, rather than *boiled* oil. The latter is very apt to blister and peel from the wood.

COLORING GRASSES FOR ORNAMENTAL VASES.—Dip the dried grasses in weak glue, and while still wet, roll each one separately in any dry color, and shake them, to remove any heavy drops of the glue.

A New Method of Painting the Interior of Houses.

Permanent Wood Filling, as used in House Painting.

THE custom of finishing houses with beautiful woods, instead of with paints, is a very tasteful one, and we are glad to notice that it is rapidly growing in favor with the public. In the hall, bath-room, and kitchen, in the finer class of houses now building in New York, the use of natural woods has generally superceded that of paint; and in some of the most luxurious

houses, where expense is an after consideration, mantles of carved wood have in many instances taken the place of marble. This new mode of finishing is without question superior to the old in every consideration of beauty and durability. It has but one objection,—its costliness. It is with a view of covering this one objection that the Permanent Wood Filling—originally intended as a priming for carriages and cars,—has been tested by many house-builders, and as it has invariably proved valuable, it merits the attention of house-painters and architects. In an ordinary house it is too expensive to finish with hard woods, but by using this liquid to stain pine or white-wood, an excellent imitation may be produced at trifling expense.

For the information of those who are unacquainted with the Permanent Wood Filling, we would say, it is a liquid, of about the same consistency as varnish, and is supplied in cans of one and five gallons capacity, at $4.00 per

gallon. There are two shades, the "Dark" and the "Light."

The former is employed when it is desired to stain the wood a rich brown; the latter is nearly colorless, and is used on light colored work, or when the natural shade of the wood is to be retained.

It is claimed for this new article, that being a very penetrating and non-evaporating anti-damp, of extreme durability, it is a perfect and permanent filling for the pores of wood, and is designed to take the place of lead paint, in a measure, for all *new* work. Paint simply forms a coating *upon* the wood, and can only protect so long as that coating remains unimpaired by exposure; whereas the filling enters the pores and permanently closes them, thus *hardening the wood itself*, and making it almost an enamel, while but very little of the filling remains on the surface. It is also very elastic, and no flaking or cracking will ever be found in its use; and it being easily washed or

cleaned, is very useful on kitchen and hall wainscotings.

DIRECTIONS FOR USE.

ON CLOSE-GRAINED WOOD.—Inside finish, one coat of Permanent Wood Filling, dark or light shade, or a mixture of the two, as taste may direct. Let dry, and sandpaper. If a brilliant finish is desired, a coat of varnish may be added.

ON HEAVY-GRAINED WOOD.—Inside finish, use the following method: Put on one coat of Permanent Wood Filling. Let dry, and sandpaper lightly. Mix starch, Japan Gold Size, oil and turpentine, and apply a coat of this compound and knife in. When dry, the job is ready for varnishing.

If it is not desired to fill the grain so as to make a perfectly true and even surface, simply apply two coats of Permanent Wood Filling, giving the first time to dry before the second

is applied. Oil and sandpaper. Varnish if desired.

On Paneled Work.—In houses ceiled with pine or other soft wood, a very beautiful and durable finish may be made at little expense in the following manner: Apply one coat of Dark Filling on each alternate panel, and a coat of Light on the rest. Or a still more attractive effect may be produced by filling one panel with Dark Filling, the next with light, and the third with an intermediate shade composed of an equal mixture of the other two. Let dry from two to four days. A coat of varnish may be applied if a brilliant finish is desired.

The new depot at Saratoga is finished in hard woods, as follows: Black Walnut wainscoting five feet high. Above that Chestnut cut up into panels with mouldings of Black Walnut. Over the whole surface are two coats of the Light Filling. Every one who has seen this depot pronounces the finish to be unequalled

both for its tasteful appearance and extreme durability.

The following list embraces a few of the buildings finished with the Permanent Wood Filling.

2. Carriage Repository of Brewster and Co., of Broome Street, N. Y.

3. Custom House, St. Paul, Minn.

4. Cabinet Work, Treasury Building, Washington.

5. The Rockwell House, of Glenn Falls, N. Y.

6. Methodist Church, Beverly, Mass.

7. R. R. Station, Saratoga Springs, New York.

8. Homeopathic Hospital, 23d Street and 3d Av., New York City.

9. Wm. G. Fargo's $250,000 mansion in Buffalo, New York.

CAUTIONS.

The Permanent Wood Filling can only be used on *new work*. Where lead or zinc has been once used it is not applicable.

It can be applied with an ordinary paint brush, but must be put on *very thin and even* and should be well rubbed out, leaving no more than the wood will absorb.

There must be nothing added to thin the Filling. When it does not spread readily (as on a cold day) it may be turned into a dipper and immersed in hot water, and this will greatly facilitate the working. But as heat has a tendency to cause it to thicken after it has cooled, no more should be warmed than is required for immediate use. Light and air will aid its drying.

Owing to the fact of its retaining its "tack" for a considerable length of time after its application, painters are apt to think that it is not dry when it really *is*. Two days is sufficient time to allow it to dry.

Avoid the use of turpentine throughout this system of painting, *as far as possible.*

INDEX.

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